

REMARKS

The gas circulating loop of new claim 25 is seen in FIGS. 1, 18 and 19 as the combination of outflow line 203 and gas inflow line 202. Note the position of the connection of the gas discharge line relative to the pump and the fuel chamber. Also see paragraph [0073] of the substitute specification.

New method claim 26 tracks claims 1 and 25. With regard to dependent method claims 27 and 28 see [0011] and [0080], respectively.

The Objection to the Specification (paragraph 3 of the office action) and the Rejection of Claim 3 under 35 USC 112, First Paragraph (paragraph 4 of Office Action)

In paragraphs 3 and 4 of the office action, the examiner questions where the specification provides description corresponding to the language of claim 3. The rejection is traversed because the structure recited in claim 3 is shown in Fig. 19 of the drawings and described in paragraphs [0103] and [0097] of the substitute specification. That valves 72b and 73 are in parallel with valve 72a is clearly shown in FIG. 19 of the drawings. See the marked up copy of FIG. 19 (and replacement sheet for FIG. 19) attached hereto which show regulating valves 72a and 72b (circled in red) arranged in parallel. That 72a and 72b are regulating valves is taught in paragraph [0103] of the substitute specification and paragraph [0099] of the original specification.

The Rejection of Claims 1-6 and 22-24 for Anticipation by Yang

The rejection of claims 1-6 and 22 for anticipation over Yang is respectfully traversed, firstly, for the reason that Yang neither discloses nor suggests "pressure

regulating means" for establishing two different flows of gas at respectively different pressures.

As the examiner has correctly noted, in paragraphs [0024] and [0026] Yang teaches that the flow of the fuel gas (hydrogen) to the anode is alternated between (1) flow at a rate providing a "higher than the required stoichiometric amount" and (2) no flow at all. No flow is not flow at any pressure. The Examiner seems to ignore the distinction between a state where "no more fresh anode gas is supplied" (no flow - Yang) and the state of "normal power generation" with a flow of fuel gas at a second, lower gas pressure (the present invention). Unlike Yang, the regulating means of the present invention switches between two different flows of fuel gas, i.e. differing with respect to pressure.

"Regulating means for ... [specified functions]" invokes the sixth paragraph of 35 USC 112. "Both before and after *Donaldson* the application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim," quoting from MPEP §2182. The Examiner here has identified no element or elements in Yang as performing the identical function, i.e. establishing two different gas flows at two different pressures.

Instead of treating applicants' "means-plus-function" claim recitation in accordance with the guidelines of MPEP §2183, the Examiner here arbitrarily and erroneously, in the first paragraph at page 11 of the office action, treats the function, recited as part of applicants' means-plus-function language, as a "recitation of the intended use." Such an interpretation is without any authority and, again, is contrary to

the guidelines of the MPEP.

At page 8 of the office action the examiner explains that she reads the recited discharge line, discharge valve and pump on check valves 72 and 74 and pump 70 of Yang. However, check valves 72 and 74 and pump 70 of Yang are in a recirculation line wholly incapable of purging residual gas from the fuel chamber or from the system.

Stated differently, Yang does not disclose or suggest any "pressure regulating means" for changing a supply pressure between a start-up power generating state and a normal power generating state.

Claim 2

Yang does not disclose a sensor for detecting the concentration of the fuel gas within the fuel chamber of a fuel cell. In the paragraph spanning pages 11 and 12 of the office action the Examiner writes:

"It is noted that the position of the pistons correlate directly with the pressure (concentration) of anode gas acting on the piston and since the sensors sense the position of the pistons they are able to detect the concentration of fuel gas."

The problems with the Examiner's argument are two-fold. Firstly, the position sensors 106 and 108 of Yang are remote from fuel cell 80, isolated therefrom by valving and are not sensing a pressure within the fuel cell 80. Secondly, the position sensors of Yang are not specific to the pressure of fuel gas. Invoking the Examiner's theory total pressure is measured. Note, in contrast the separate oxygen and hydrogen sensors S5 and S6 in applicants hydrogen in hydrogen outflow line 203 in the hydrogen circulation

loop.

Claim 3

The examiner reads claim 3 on valves 62 and 64 of Yang. However, valves 62 and 64 of Yang are clearly in series, not in parallel as required by claim 3. Further 62 is an ON/OFF switch and placing it in parallel with 64 would allow gas to bypass pressure regulation by valve 64, contrary to the teaching of Yang.

At the bottom of page 12 of the office action ("e") the Examiner does not reply to the foregoing arguments, does not apply the prior art, and, instead, treats claim 3 as invalid as directed to new matter. The Examiner is reminded that the original drawings are part of the original disclosure and can furnish the description of claimed subject matter required by the first paragraph of 35 USC 112.

Claims 22-23

At the bottom of page 13 of the office action the Examiner writes "If the prior art is capable of performing the intended use, then it meets the claim." The statement is both legally and factually incorrect. All of whatever comes out of the fuel cell 80 at 84 goes back in at 82 and, thus, nothing can be purged from the system.

Claim 24

Claim 24 also recites a "pressure regulating means for switching between two different flows of fuel gas, i.e. flows at two different pressures and that this switching is by operation of the gas discharge valve, which the examiner would read on one or both of check valves 72 and 74. Again, check valves 72 and 74 are wholly incapable of

changing the pressure of the fuel gas in the recirculation line or elsewhere.

Further, if one or both of the check valves 72 and 74 is the equivalent of applicants' discharge valve, as alleged by the examiner, then the pressure regulating means of Yang can not be characterized as "in the fuel gas inflow line" while the pump is simultaneously located "in the discharge line between the fuel chamber and the discharge valve as recited by claim 24.

In conclusion, reconsideration of the rejections of record is respectfully requested.

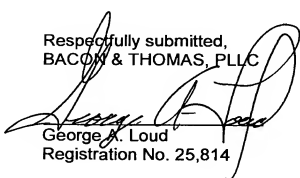
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